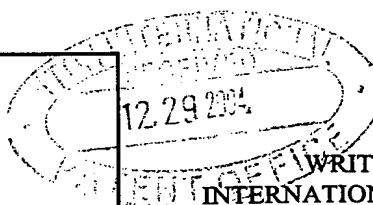


PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
ITOH, Tadahiko

**32nd Floor, Yebisu Garden
Place Tower, 20-3, Ebisu
4-chome, Shibuya-ku, Tokyo
1506032 Japan**



PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) **28.12.2004**

Applicant's or agent's file reference

R04164PCT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/JP2004/017223

International filing date (day/month/year)

12.11.2004

Priority date (day/month/year)

17.11.2003

International Patent Classification (IPC) or both national classification and IPC

Int.Cl. **B41J2/01 , B41J2/21**

Applicant

RICOH COMPANY, LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Japan Patent Office

3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan

Authorized officer

DAICHI TAKAMATSU

Telephone No. **+81-3-3581-1101 Ext. 3261**

2P 9415

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/017223

Box No. I

Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/ 017223

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims		YES
	Claims	1 - 5	NO
Inventive step (IS)	Claims		YES
	Claims	1 - 5	NO
Industrial applicability (IA)	Claims	1 - 5	YES
	Claims		NO

2. Citations and explanations

Docment1:JP 11-254712 A(SEIKO EPSON CORP.)1999.09.21,whole document

The subject matter of claims 1-5 do not appear to be novel , and do not appear to involve an inventive step in view of the D1 cited in the ISR.

Claims 1-5 relate to

[A head-unit moving unit of an ink jet printing device comprising:

the control unit is configured so that

main scanning direction along a printing region of a recording medium;

sub-scanning direction by an interval represented by the formula H/k where H

is an array interval of the discharge nozzles in the sub-scanning direction

and k is an integer above one;

sub-scanning direction so that the head unit is located to a next non-printed region;

a rear-end portion of the discharge nozzles in an array direction after printing of the printing region

and a front-end portion of the discharge nozzles in the array direction before printing of the non-printed region overlap each other with respect to the sub-scanning direction,

and invalid nozzles that do not discharge the ink drops are determined from among arbitrary ones of the overlapping discharge nozzles including the front-end portion and the rear-end portion in the array direction of the discharge nozzles.].

Such above composition appears to be known from D1 (see whole document).